

REMARKS

Claims 1-18 stand rejected, of which claims 1, 6, 10 and 12 are independent.

Reconsideration of the application is respectfully requested.

Rejections Under 35 U.S.C. §102

The Examiner rejected claims 1-8, 10, 12-16 and 18 under 35 U.S.C. § 102(e) as being anticipated by Klein (U.S. Pat. No. 6,138,194). With specific regard to independent claims 1, 6 and 12, the Examiner stated:

Klein discloses a computer system comprising:

- an electromagnetic energy source (fig. 5, 502, 504) located on a first side of a system board proximate an connector (col. 6, lines 8-28)
- the electromagnetic energy source for generating electromagnetic energy directed at least toward a second opposing side of the system board; (col. 6, lines 8-31)
- an electromagnetic energy detector (fig. 2, 210) located on the second side of the system board the electromagnetic energy detector for detecting a presence of electromagnetic energy when a hot-pluggable component is not mated to the connector and the electromagnetic energy is thereby unobstructed by the hot-pluggable component, the electromagnetic energy detector further for detecting an absence of electromagnetic energy when the hot-pluggable is mated to the connector and the electromagnetic energy is thereby obstructed by the hot-pluggable component. (col. 4, lines 30-42), (col. 6, line 33 - col.7, line 14)

Applicants respectfully traverse this rejection for a number of reasons. Anticipation under section 102 can be found only if a single reference shows exactly what is claimed.

Titanium Metals Corp. v. Banner, 778 F.2d 775, 227 U.S.P.Q. 773 (Fed. Cir. 1985). For a prior art reference to anticipate under section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). To maintain a proper rejection under section 102, a single reference must teach each and every element or step of the rejected claim. *Atlas Powder v. E.I. du*

Pont, 750 F.2d 1569 (Fed. Cir. 1984). Thus, if the claims recite even one element not found in the cited reference, the reference does not anticipate the claimed invention.

Independent claim 1 recites an electromagnetic energy source located on a first side of a system board proximate a connector, for generating electromagnetic energy to a second opposing side of the system board. Claim 1 further recites an electromagnetic energy detector located on the second side of the system board, for detecting the presence or absence of electromagnetic energy depending on whether a hot-pluggable component is mated to the connector. Similarly, independent claim 6 recites a means for generating electromagnetic energy located on a first side of a system board proximate a connector, the electromagnetic energy directed to a second opposing side of the system board. Claim 6 further recites a means for detecting electromagnetic energy located on the second side of the system board, for detecting the presence or absence of electromagnetic energy depending on whether a hot-pluggable component is mated to the connector. Independent claim 12 recites a method for detecting the presence of a hot-pluggable component comprising the steps of generating electromagnetic energy on a first side of a system board proximate a connector, and detecting a presence or absence of electromagnetic energy on the second opposing side of the system board depending on whether a hot-pluggable component is mated to the connector. Based on the similarity of subject matter recited in each of the independent claims, the claims are discussed together below.

The Examiner correlates the mechanical switches 502 and 504 illustrated in Fig. 5 of the Klein reference with the electromagnetic energy source recited in the present claims. Applicants respectfully traverse this assertion for a number of reasons. First, those skilled in the art will appreciate that mechanical switches do not produce electromagnetic energy and therefore, are distinguished from the presently recited electromagnetic energy source. As

discussed in the background of the present specification, mechanical switches are disadvantageous in that they add cost to the computer system, require additional space and may reduce reliability due to the mechanical nature of the switches. Specification, page 4 lines 16-19. It would be advantageous, therefore, to devise a method and apparatus for detecting the presence of hot-pluggable components in a computer system *without the use of mechanical switches*. Specification, page 5, lines 1-3. The electromagnetic energy source recited in each of the present claims advantageously provides for detecting hot-pluggable components, *without using mechanical switches*. For this reason alone, the Examiner's characterization of the mechanical switches 502 and 504 as the electromagnetic energy source recited in the present claims is wholly unsupportable.

In addition to the above distinctions, the mechanical switches 502 and 504 in Klein are *not* located on a first side of a system board. As discussed above, the present claims recite "an electromagnetic energy source" or "means for generating electromagnetic energy located on a first side of a system board proximate a connector." As clearly illustrated and described with reference to Fig. 5 in Klein, the mechanical switches 502 and 504 are not located on a system board, as recited in the present claims, but rather are located *within* the bus connector 402. Klein, Col. 6, lines 15-20. Accordingly, the Examiner's characterization of the mechanical switches 502 and 504 in Klein as the "electromagnetic energy source located on a first side of a system board proximate a connector," as recited in the present claims, is not supportable.

Still further, the Examiner correlates the optical card detector 210 in Klein with the presently recited electromagnetic energy detector. Applicants respectfully traverse this assertion as well. As a preliminary matter, the Examiner's citation of the mechanical switches 502 and 504 in combination with the optical card detector 210 of Fig. 2 in Klein to

provide a basis for the rejections under 35 U.S.C. § 102 is has no basis in Klein. As discussed above, elements 502 and 504 illustrated in Fig. 5 of Klein represent mechanical switches. As such, the mechanical switches 502 and 504 *do not* produce electromagnetic energy and therefore in conjunction with the optical card detector 210 of Klein would not (and cannot) correlate with the electromagnetic energy detector as recited in the claims of this application. Regardless, as with the mechanical switches 502 and 504, it is clear from Fig. 2, as well as the description thereof, that the optical card detector 210 is located *within* the bus connector 120. *See* Fig. 2; col. 4, lines, 30-32. The present claims recite an electromagnetic energy detector (or means for detecting electromagnetic energy) located on the second side of the system board. Accordingly, in addition to the inaccurate characterization in the Office Action of the mechanical switches 502 and 504 and the optical card detector 210, it is clear that because the optical card detector 210 is located within the connector 120, any characterization of the optical card detector 210 as located on the second side of the system board, as recited in the present claims, is not supportable.

In view of the remarks set forth above, Applicants respectfully submit that the subject matter of independent claims 1, 6 and 12 is not anticipated by the Klein reference. Because the Klein reference fails to recite each of the elements in the manner set forth in the independent claims, Applicants further submit that each of the claims dependent thereon is also allowable based on the deficiencies of the Klein reference described with respect to the independent claims. Accordingly, Applicants respectfully request withdrawal of the Examiner's rejection and allowance of claims 1-8, 12-16 and 18.

The Examiner also rejected claim 10 under 35 U.S.C. § 102 as being anticipated by Klein. While the Examiner's comments are too lengthy to be reproduced efficiently herein, Applicants respectfully traverse this rejection.

Independent claim 10 recites the limitations described above with respect to independent claim 1, and in addition recites “a second electromagnetic energy source located on the first side of the system board proximate a second end of the connector” and “a second electromagnetic energy detector located on the second side of the system board.” The Examiner appears to be correlating the first mechanical switch 502 with the presently recited first electromagnetic energy source and correlating the second mechanical switch 504 with the presently recited second electromagnetic energy source. As discussed above with regard to the rejections of claim 1, the Klein reference does not disclose an electromagnetic energy source and an electromagnetic energy detector having the limitations recited in the present claims. For this reason alone, it is clear that the Klein reference does not disclose all of the elements recited in claim 10, much less disclose a second source and a second detector as further recited in claim 10.

As discussed above, claim 10 further recites “a second electromagnetic energy source located on the first side of the system board proximate a second end of the connector,” and further recites “a second electromagnetic energy detector located on the second side of the system board.” As with the first source and first detector, the presently recited second source and second detector are located on the system board. As previously discussed, even if the mechanical switches 502 and 504 and the optical card detector 210 could be properly combined and correlated with the electromagnetic energy source and the electromagnetic energy detector recited in the present claims, Klein clearly teaches that the mechanical switches 502 and 504 and the optical card detector 210 are located *within* a connector, not on the system board.

In view of the remarks set forth above, Applicants respectfully submit that the subject matter of independent claim 10 cannot be anticipated by the cited reference. For at least the reasons set forth above, it is clear that claim 10 recites elements that are not found in the Klein reference. Accordingly, Applicants respectfully request withdrawal of the Examiner's rejection and allowance of claim 10.

Rejections Under 35 U.S.C. §103

The Examiner rejected claims 9 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Klein et al. (U.S. Pat. No. 6,138,194) in view of Klein (U.S. Pat. No. 6,065,069). The Examiner rejected claim 17 under 35 U.S.C. § 103(a) as being unpatentable over Klein et al. (U.S. Pat. No. 6,138,194). Applicants respectfully traverse these rejections.

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). For a single prior art reference, the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. *See In re Fritch*, 23 U.S.P.Q.2d 1780, 1783-84 (Fed. Cir. 1992). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination or modification includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *See Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985).

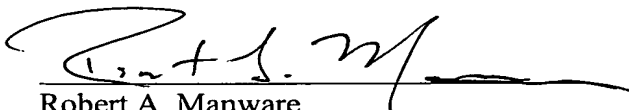
Claim 9 is dependent on claim 6, claim 11 is dependent on claim 10 and claim 17 is dependent on claim 12. As discussed above with respect to the rejections under 35 U.S.C. § 102, independent claims 6, 10 and 12 recite combinations of elements and interfunctionality which are not disclosed in the primary reference. The secondary reference does nothing to cure the deficiencies discussed above with regard to the independent claims. Applicants respectfully submit that dependent claims 9, 11 and 17 are also allowable based on their dependency on allowable base claims. Accordingly, Applicants respectfully request withdrawal of the Examiner's rejection under 35 U.S.C. § 103 and allowance of claims 9, 11 and 17.

Conclusion

In view of the remarks set forth above, Applicants respectfully request allowance of claims 1-18. If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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